



Infrastructure, buildings, environment, communications

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ATTN: Mr. John Geroch

California Regional Water Quality Control Board
Los Angeles Region (RWQCB)
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject:

C6 Water Injection Test Data

Project Site: Former Boeing C-6 Facility, Los Angeles, California
File No. 95-036, SLIC 0410

ENVIRONMENTAL

Dear Mr. Geroch:

Date:
September 14, 2004

The purpose of this letter is to summarize the series of water injection tests that were performed by ARCADIS at the former Boeing – C6 facility located at 19400 Harbortate Way, in Los Angeles, California between June 14 and July 12, 2004. The work plan for this test was approved by you in a letter entitled *Test of Groundwater Remediation System, Former C6 Facility, Boeing Realty Corporation*. A summary of these tests is provided below.

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The injection tests consisted of injecting the full design volume of potable water into each of the amendment points, while recording pressure and flow rate data on field sheets. An observer was stationed inside the warehouse building at all times to monitor the area for potential surface water seepage. The objective of the test was to determine if any of the amendment points continue to seep water to the surface, and to evaluate pressures and flow rates required to successfully inject carbohydrate solution into the subsurface to develop a revised Bioremediation Injection Implementation Plan.

The attached Table (Table 1—Injection Summary) provides a summary of the water injection test data. Amendment points that are highlighted in red have been removed from the injection program, and will no longer be injected into during future injection events. These amendment points were removed from the injection program because they either seeped water to the surface or were low flow rate points that required manifold pressures over 10 pounds per square inch (psig) during the water injection test. Amendment points that are highlighted in yellow will remain in the injection program, but will require injection pressures up to a maximum manifold pressure of 10 psig. The remaining amendment points siphoned during the water injection test, and will likely not require application of manifold pressure during future injection events.

Part of a bigger picture

BOE-C6-0067630

The following information provides an analysis of the water test data and a summary of the field data and piezometer data.

Vault 1

During the water injection test, IRZB-5 seeped to the surface after approximately 400 gallons of injected water. The manifold gauge pressure was 15 psig at a flow rate of 3.6 gallons per minute (gpm) at the time water was discovered seeping to the surface. This amendment point will be taken out of service and will not be used in the IRZ injection program.

In addition, amendment points IRZB-1 and IRZB-27A exhibited low flow rates at elevated injection pressures. IRZB-1 required a manifold pressure of 19 psig to achieve a flow rate of approximately 1.6 gpm. IRZB-27A required a manifold pressure of 20.5 psig to achieve a flow rate of 0.4 gpm. These two amendment points will be taken out of service due to the low flow rate and elevated injection pressures that are required.

Two amendment points, IRZB-2 and IRZB-20, did not siphon during the water injection test and required a manifold pressure of approximately 15 psig to achieve an average injection flow rate of approximately 3.5 gpm. These amendment points will be injected with a maximum manifold pressure of 10 psig in future injection events. Since this manifold pressure is lower than the manifold pressure used during the water test, the flow rates for these amendment points will be less than those recorded during the water test. This reduced flow rate (expected to be approximately 2 to 3 gpm during future injection events) is still within an acceptable range to economically complete the injected volume, however, if the flow rate is too low, these points may be removed from service in the future.

Nine amendment points (IRZB-18, 21, 23A, 28, 32, 33A, 35, 37A, and 37B) will require a minimal manifold injection pressure (less than 5 psig) to successfully inject the design volume of solution. These amendment points exhibited minimal or no siphoning during the water injection tests. A maximum manifold pressure of approximately 5 psig will be required to successfully inject the design volume in an economical time frame.

The remaining 37 amendment points in Vault 1 siphoned during the water injection test. These amendment points will be injected at a wellhead pressure of 0 psig or less during future injection events.

Vault 2

During the water injection test, IRZB-49A seeped water to the surface after approximately 465 gallons of injection. The injection pressure was 8 psig at a flow rate of approximately 2.4 gpm at the time water seepage at the surface was observed. This amendment point will not be used in the IRZ injection program.

One amendment point, IRZB-47A, required an injection pressure of 17.5 psig to maintain an injection flow rate of approximately 1.3 gpm. Although the full design volume was injected into this point, this constitutes a low flow rate and high pressure condition, and therefore this amendment point will not be included in future injection events.

Three amendment points (IRZB-50A, 51A, and 54A) required moderate pressure (12.5 to 15 psig at the manifold, and flow rates of 1.5 to 2.0 gpm) to inject the 480 gallon design volume during the water injection test. Each of these amendment points pulled a vacuum after the injection was stopped, which is an indication that the injected fluid is reaching the subsurface. These amendment points will receive a maximum manifold pressure of 10 psig for future injection events. A flow rate of approximately 1.5 to 2.0 gpm is expected at this injection pressure, which corresponds to a frictional loss of approximately 1 to 2 psig.

The remaining 24 amendment points in Vault 2 exhibited a siphoning condition during the water injection test. These amendment points will be injected at a wellhead pressure of 0 psig or less during future injection events.

Vault 3

No amendment points seeped to the surface during the water injection tests in Vault 3.

Two amendment points, IRZB-64 and 74, required pressure to complete the 1,200 gallon design volume of fluid during the water injection test. At an applied manifold pressure of 1.5 psig and flow rate of approximately 2.1 gpm, the injection time for IRZB-64 was approximately 8.5 hours. The friction loss for this flow rate is approximately 4.5 psig; therefore, the manifold pressure could be increased to 5 psig during future injection events. Similarly, IRZB-74 was tested at 10 psig and a flow rate of approximately 3.6 gpm. The friction loss for this flow rate is approximately 11 psig, so a manifold pressure of 10 psig can be applied in future injection events. This ensures that the wellhead pressure will be zero psig or less.

The remaining 36 amendment points in Vault 3 exhibited siphoning during the water injection test. These amendment points will be injected at a wellhead pressure of 0 psig or less during future injection events.

Vault 4

There were no amendment points in Vault 4 that seeped to the surface during the initial IRZ injection event or during the water test.

IRZC-2 required an applied manifold pressure of 21 psig to maintain an average flow rate of 1.3 gpm during the initial IRZ injection event. This point will be removed from service due to the elevated manifold pressure and low flow rate.

There are nine amendment points (IRZC-1, 4, 5, 6, 7, 8, 9, 10, and 19) that required an applied wellhead pressure of 6 psig or less (manifold pressures of 12 to 18 psig) to flow at flow rates of 3.5 to 4 gpm; these amendment points may siphon at a reduced flow rate during future injection events, and will be injected at manifold pressures of 5 psig or less. Friction losses for the injection flow rates will ensure that there will be zero psig or less at the wellhead.

The remaining 10 amendment points siphoned during the molasses injection event, and will not likely require application of wellhead pressure during future injection events once the initial siphon is established. These amendment points will be injected at a wellhead pressure of 0 psig or less during future injection events.

Vault 5

Although testing Vault 5 was not discussed in the water test work plan submitted to the RWQCB, amendment points in this vault were tested because they had not been injection into following construction.

No amendment points exhibited seepage to the surface during the water injection tests in Vault 5.

There are four amendment points, AW0139, AW0141, AW0143, and AW0156, that required a moderate manifold pressure to inject the design volume during the water injection test. These amendment points will require a moderate wellhead pressure of less than 2 psig during future injection events.

The remaining 27 amendment points siphoned during the water injection event, and will not likely require application of wellhead pressure during future injection events once the initial siphon is established. These amendment points will be injected at a wellhead pressure of 0 psig or less during future injection events.

Conclusion

The water injection test was successful in providing valuable data for future injection events at the former Boeing – C6 facility. Every one of the amendment points were tested during the water injection test (June/July 2004) or the successful IRZ injection event (February 2004). Of the 138 amendment points in Vaults 1 through 4, six points will be removed from future injection events due to low flow rates, elevated injection pressures, or confirmed surface seepage. It should be noted that if during future injection events an amendment point requires injection pressures greater than 10 psig or the injection flow rate is excessively slow, that point may be removed from the IRZ injection program in the future. Twenty-five (25) amendment points will require moderate injection pressures of 10 psig or less to successfully inject the design volume. The remaining 107 amendment points were found to siphon during the injection events, and will not likely require application of a wellhead pressure greater than 0 psig to successfully inject the design volume.

No amendment points in Vault 5 will be removed from future injection events. Four points will require a minimal wellhead pressure to inject the design volume. The remaining 27 amendment points siphoned during the injection tests, and will not likely require application of wellhead pressure greater than 0 psig during future injection events.

Piezometer data from pressure transducers installed in the adjacent monitoring wells indicate that the injected fluid creates a 1 to 1.5 foot rise in water levels. The effect in the monitoring wells is detected within five minutes of starting injection into the amendment points. In addition to the piezometer data, pressure/vacuum data was collected in the amendment points adjacent to the amendment point being actively injected. No substantial pressure increase or decrease was detected in the surrounding amendment points in any of the data collected.

Sincerely,

ARCADIS G&M, Inc.



Trent Henderson, P.E.

Site Evaluation & Remediation Department Manager

Copies:

Robert Scott - Boeing

Alistaire Callender - ARCADIS

Project File

ARCADIS

Tables

Table 1
Injection Summary
Boeing Realty Corporation
Building 2 Area - Former C6 Facility, Los Angeles, California

Amendment Point ID	Date	Injection/Test Event	Well Siphoned?	Wellhead Pressure/Vacuum (psig / " Hg)	Manifold Pressure/Vacuum (psig / " Hg)	Average Flowrate (gpm)	Injected Volume (gal)	Amendment Point Installation Method	Comments
VAULT 1 (51 Wells)									
IRZ B 1	5/23/03	Flow Test		8.0		8	30		
	2/23/04	Initial Molasses Injection	No	45	46	1.0	157	CPT	
	3/1/04	Water Flush	No		10/12/13	0.6/1.9/0.4	22		3.27 gals injected on 3/2/04
	6/15/04	Water Test	No		19.0	1.66	1,201		
IRZ B 2	5/23/03	Flow Test		5.0		7.5	30		
	2/23/04	Initial Molasses Injection	No	45	46	3.7	584	CPT	
	3/1/04	Water Flush	No		13	2.8	25		Stopped and started many times to reach 25 gals.
	6/16/04	Water Test	Yes		15.0	2.51	1,205		Well siphoned to 20" Hg vacuum at shutdown.
IRZ B 3	5/23/03	Flow Test		<2.0		12	30		
	2/23/04	Initial Molasses Injection	Yes	-9	44	8.4	1,200	CPT	
	3/1/04	Water Flush	Yes		10/6	4.6/5.6	25		
	6/21/04	Water Test	Yes		6" Hg	3.72	1,203		Well siphons to 28" Hg vacuum at shutdown.
IRZ B 4	5/23/03	Flow Test		5.0		7.5	30		
	2/23/04	Initial Molasses Injection	Yes	22	44	5.4	849	CPT	
	3/1/04	Water Flush	Yes		13/8	3.0/5.4	25		
	6/21/04	Water Test	Yes		0.0	4.79	1,202		Well siphons to 28" Hg vacuum at shutdown.
IRZ B 5	5/23/03	Flow Test		9.0		5	30		
	2/23/04	Initial Molasses Injection	No	16	45	6.6	1,022	CPT	
	3/1/04	Water Flush	No		13	0.4	4		Observed flowrate was very slow.
	6/14/04	Water Test			15.0	3.62	399		Water test stopped due to surface leak (approx. 2 gallons).
IRZ B 6	5/27/03	Flow Test		<2.0		12	30		
	2/23/04	Initial Molasses Injection	Yes	-35	40	11.4	1,200	HSA	
	3/1/04	Water Flush	Yes		12	7.6	25		Observed flowrate was very fast.
	6/21/04	Water Test	Yes		2" Hg	5.28	1,203		Well siphons to 26" Hg vacuum at shutdown.
IRZ B 7	5/27/03	Flow Test		<2.0		12	30		
	2/23/04	Initial Molasses Injection	Yes	-17	41	10.4	1,200	HSA	
	3/1/04	Water Flush	Yes		13	4.0/8.6	25		
	6/21/04	Water Test	Yes		2.5" Hg	3.00	1,201		Well siphons to 26" Hg vacuum at shutdown.
IRZ B 8	5/23/03	Flow Test		<2.0		13	31		
	2/23/04	Initial Molasses Injection	No	4	43	6.9	1,083	CPT	
	3/1/04	Water Flush	No		13	NA	1		Flow stopped.
	6/15/04	Water Test	Yes		4.0	4.96	1,200		Well siphons at <2 psi and 2.5 gpm flow rate.
IRZ B 9	5/23/03	Flow Test		<2.0		12	30		
	2/23/04	Initial Molasses Injection	No	31	44	4.0	625	CPT	
	3/1/04	Water Flush	No		13	NA	3		Flow stopped.
	6/14/04	Water Test	Yes		8.0	5.58	1,200		End of test, valve closed, hose siphons flat.
IRZ B 10	5/23/03	Flow Test		3.0		8	30		
	2/23/04	Initial Molasses Injection	No	22	43	5.4	835	CPT	
	3/2/04	Water Flush	No		13	NA	1		Flow stopped.
	6/15/04	Water Test	Yes		4.0	5.41	1,201		Well siphons to <2 psi and 2.5 gpm flow rate.

Table 1
Injection Summary
Boeing Realty Corporation
Building 2 Area - Former C6 Facility, Los Angeles, California

Amendment Point ID	Date	Injection/Test Event	Well Siphoned?	Wellhead Pressure/Vacuum (psig / " Hg)	Manifold Pressure/Vacuum (psig / " Hg)	Average Flowrate (gpm)	Injected Volume (gal)	Amendment Point Installation Method	Comments
IRZ B 11	5/23/03	Flow Test		<2.0		10.5	31		
	2/23/04	Initial Molasses Injection	Yes	-17	43	9.8	1,201	CPT	
	3/1/04	Water Flush	Yes		8/12/6	5.1/4.2/5.6	25		
	6/21/04	Water Test	Yes		3.5" Hg	3.43	1,202		
IRZ B 12	5/27/03	Flow Test		<2.0		11	30		Well siphons to 28" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	Yes	28	40	4.3	133	HSA	
	3/1/04	Water Flush	Yes		8/11/2	5.2/4.4/6.5	25		
	6/21/04	Water Test	Yes		0.0	4.84	1,201		
IRZ B 13	5/27/03	Flow Test		<2.0		13	30		Well siphons to 29" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	Yes	-1	40	8.8	274	HSA	
	3/1/04	Water Flush	Yes		13/10	2.2/10.0	25		
	6/21/04	Water Test	Yes		6.5" Hg	4.05	1,202		
IRZ B 14	5/27/03	Flow Test		<2.0		11	21		Well siphons to 27" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	Yes	8	40	8.1	250	HSA	
	3/1/04	Water Flush	Yes		10/<2	4.5/7.1	25		
	6/21/04	Water Test	Yes		2" Hg	6.34	1,205		
IRZ B 15	5/23/03	Flow Test		<2.0		12	30		Well siphons to 28" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	Yes	9	14	2.4	129	CPT	
	3/1/04	Water Flush	Yes		13/5	2.2/5.2	25		
	7/9/04	Water Test	Yes		0.0	4.8	1,200		
IRZ B 16	5/23/03	Flow Test		8.0		6	15		Well siphons to 28" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	Minimal	11	15	2.2	122	CPT	Well was retested 5/30/03.
	3/1/04	Water Flush	Minimal		13	2.7/0.7/3.2	25		
	7/9/04	Water Test	Yes		6.5	4	1,200		
IRZ B 17	5/27/03	Flow Test		5.0		8	37		Well siphons to 29" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	Yes	-10	13	6.2	341	HSA	
	3/1/04	Water Flush	Yes		12	5.4/8.8	25		
	7/9/04	Water Test	Yes		0.0	6.2	1,200		
IRZ B 18	5/30/03	Flow Test		<2.0		8	30		Well siphons to 28" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	Yes	-2	13	5.2	288	HSA	
	3/1/04	Water Flush	Yes		13/12	4.2/4.6	25		
	7/9/04	Water Test	Minimal		9.0	3.5	1,200		No significant pressure drop observed.
IRZ B 19	5/27/03	Flow Test		<2.0		15	30		Well siphons to 6" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	Yes	-3	12	5.5	305	HSA	
	3/2/04	Water Flush	Yes		9/<2	4.7/6.4	25		
	7/9/04	Water Test	Yes		3.5" Hg	6.6	1,200		
IRZ B 20	5/23/03	Flow Test		12.0		3	31		Well siphons to 28" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	No	7	10	2.4	134	CPT	
	3/2/04	Water Flush	No		13	1.4	7		
	6/14/04	Water Test	No		14.0	4.23	1,201		Flow stopped.

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IRZ B 21	5/30/03	Flow Test		<2.0		9	37		
	2/23/04	Initial Molasses Injection	Minimal	-4	10	4.7	261	HSA	
	3/2/04	Water Flush	Minimal		8/10	5.5/4.9	25		
	7/9/04	Water Test	Minimal		6.0	3.3	1,200		Well siphons to 10" Hg vacuum at shutdown.
IRZ B 22	5/30/03	Flow Test		4.0		7	25		
	2/23/04	Initial Molasses Injection	Yes	-8	8	5.5	301	HSA	
	3/2/04	Water Flush	Yes		12	8	25		Well siphons to 2" Hg vacuum at shutdown.
	7/9/04	Water Test	Yes		0.5	3.24	1,211		
IRZ B 23A	5/27/03	Flow Test		<2.0		12	30		Well was reinstalled but not retested to accommodate construction schedule.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/23/04	Water Test	No		7.0	1.53	481		Well not injected, flushing not required.
IRZ B 23B	5/27/03	Flow Test		12.0		5	30		No siphoning observed.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/22/04	Water Test	Yes		10" Hg	3.87	723		Well not injected, flushing not required.
IRZ B 24	5/30/03	Flow Test		<2.0		8	32		Well siphons to 28" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Minimal	-6	12	6.6	362	HSA	
	3/2/04	Water Flush	Minimal		8/11/8	5.5/4.9/5.6	25		
	7/9/04	Water Test	Minimal		1.5	3.0	1,200		
IRZ B 25	5/27/03	Flow Test		<2.0		15	32		Well siphons to 6" Hg vacuum at shutdown.
	2/23/04	Initial Molasses Injection	Yes	-14	10	8.3	400	HSA	
	3/2/04	Water Flush	Yes		12	10.6	25		
	7/9/04	Water Test	Yes		0.0	4.3	1,200		
IRZ B 26A	5/30/03	Flow Test		7.0		4	23		Well siphons to 28" Hg at shutdown.
		Initial Molasses Injection							Well was retested 6/11/03.
		Water Flush						CPT	
	6/23/04	Water Test	Yes		1" Hg	2.09	481		Well not injected, flushing not required.
IRZ B 26B	5/30/03	Flow Test		<2.0		12	26		Well completed final 80 gals w/o pump. Well siphons to 20" Hg at shutdown.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/22/04	Water Test	Yes		6" Hg	3.24	722		Well not injected, flushing not required.
IRZ B 27A	5/30/03	Flow Test		20.0		1	46		Well siphoned to 27" Hg at shutdown.
	2/23/04	Initial Molasses Injection	NT	40	46	3.9	481	CPT	
	3/1/04	Water Flush							
	6/14/04	Water Test	No		20.5	0.37	95		Well suspected to have failed and not flushed.
IRZ B 27B	5/30/03	Flow Test		<2.0		11	25		End of test, flow too low to economically continue.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/24/04	Water Test	Yes		3" Hg	4.04	723		Well not injected, flushing not required.
									Well siphons to 29" Hg at shutdown.

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IRZ B 28	5/30/03	Flow Test		<2.0		10	68		
	2/23/04	Initial Molasses Injection	Minimal	-2	13	5.6	253	HSA	
	3/2/04	Water Flush	Minimal		13/12	4.6/5.0	25		
	7/9/04	Water Test	Minimal		9.5	3.7	1,200		Well siphons to 2" Hg at shutdown.
IRZ B 29	5/30/03	Flow Test		<2.0		14	30		
	2/23/04	Initial Molasses Injection	Yes	-13	10	8.9	401	HSA	
	3/2/04	Water Flush	Yes		<2	7.3	25		
	7/9/04	Water Test	Yes		-4.5" Hg	6.7	1,200		Well siphons to 28" Hg at shutdown.
IRZ B 30A	5/27/03	Flow Test		<2.0		11	30		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/24/04	Water Test	Yes		2" Hg	1.78	481		Well not injected, flushing not required.
IRZ B 30B	5/27/03	Flow Test		12.0		4	30		Well siphons to 20" Hg at shutdown.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/24/04	Water Test	Yes		2" Hg	4.66	722		Well not injected, flushing not required.
IRZ B 31A	5/23/03	Flow Test		10.0		3.5	30		Well siphoned to 29" Hg at shutdown.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/23/04	Water Test	Yes		4" Hg	1.37	480		Well not injected, flushing not required.
IRZ B 31B	5/23/03	Flow Test		7.0		6	31		Well siphons to 14" Hg vacuum at shutdown.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/22/04	Water Test	Yes		0.0	2.43	722		Well not injected, flushing not required.
IRZ B 32	5/30/03	Flow Test		<2.0		5	31		Well siphoned to 22" Hg vacuum at shutdown.
		Initial Molasses Injection						HSA	
		Water Flush							
	6/23/04	Water Test	Minimal		1.0	1.81	1,202		Well not injected, flushing not required.
IRZ B 33A	5/30/03	Flow Test		8.0		4	26		Well siphons to 3" Hg vacuum at shutdown.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/23/04	Water Test	Yes		2.0	1.45	481		Well not injected, flushing not required.
IRZ B 33B	5/27/03	Flow Test		<2.0		11	30		Well siphons to -16" Hg vacuum at shutdown.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/24/04	Water Test	Yes		4" Hg	4.90	725		Well not injected, flushing not required.
IRZ B 34A	5/30/03	Flow Test		12.0		7	15		Well siphons to 28" Hg vacuum at shutdown.
		Initial Molasses Injection						CPT	Well was retested 6/11/03.
		Water Flush							
	6/23/04	Water Test	Yes		1" Hg	1.89	481		Well not injected, flushing not required.
									Well siphoned to 18" Hg vacuum at shutdown.

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Boeing Realty Corporation
Building 2 Area - Former C6 Facility, Los Angeles, California

Amendment Point ID	Date	Injection/Test Event	Well Siphoned?	Wellhead Pressure/Vacuum (psig / " Hg)	Manifold Pressure/Vacuum (psig / " Hg)	Average Flowrate (gpm)	Injected Volume (gal)	Amendment Point Installation Method	Comments
IRZ B 34B	5/30/03	Flow Test		<2.0		16	29		
		Initial Molasses Injection							
		Water Flush						CPT	
	6/22/04	Water Test	Yes		8" Hg	3.63	722		Well not injected, flushing not required.
IRZ B 35	5/27/03	Flow Test		<2.0		13.5	31		Well siphoned to 28" Hg vacuum at shutdown.
		Initial Molasses Injection							
		Water Flush						HSA	
	6/24/04	Water Test	Minimal		6.0	4.06	1,202		Well not injected, flushing not required.
IRZ B 36	5/30/03	Flow Test		<2.0		12	25		Well siphons to 4" Hg vacuum only at shutdown.
		Initial Molasses Injection							
		Water Flush						HSA	
	6/22/04	Water Test	Yes		10.5" Hg	4.33	1,202		Well not injected, flushing not required.
IRZ B 37A		Flow Test							Well siphoned to 28" Hg at shutdown.
		Initial Molasses Injection							Well not tested to accommodate construction schedule.
		Water Flush						CPT	
	6/24/04	Water Test	Minimal		1.0	1.87	482		Well not injected, flushing not required.
IRZ B 37B		Flow Test							Well siphons to 4" Hg only at shutdown.
		Initial Molasses Injection							Well not tested to accommodate construction schedule.
		Water Flush						CPT	
	6/24/04	Water Test	No		5.0	2.52	721		Well not injected, flushing not required.
IRZ B 38A	5/23/03	Flow Test		9.0		4.5	30		No siphoning of hose at shutdown.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/24/04	Water Test	Yes		4" Hg	2.61	482		Well not injected, flushing not required.
IRZ B 38B	5/23/03	Flow Test		<2.0		12	32		Well siphons to 24" Hg at shutdown.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/24/04	Water Test	Yes		4" Hg	1.94	722		Well not injected, flushing not required.
IRZ B 39	5/30/03	Flow Test		<2.0		13	25		Well siphoned to 18" Hg at shutdown.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/24/04	Water Test	Yes		3" Hg	3.80	1,202		Well not injected, flushing not required.
IRZ B 40	5/23/03	Flow Test		<2.0		11	31		Well siphons to 28" Hg at shutdown.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/24/04	Water Test	Yes		5" Hg	4.59	1,203		Well not injected, flushing not required.
IRZ B 42A	5/30/03	Flow Test		11.0		5	25		Well siphons to 28" Hg at shutdown.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/24/04	Water Test	Yes		3" Hg	2.13	481		Well not injected, flushing not required.
									Well siphons to 21" Hg at shutdown.

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IRZ B 42B	5/30/03	Flow Test		<2.0		11	25		
		Initial Molasses Injection							
		Water Flush						CPT	
	6/24/04	Water Test	Yes		5" Hg	4.16	722		Well not injected, flushing not required. Well siphons to 28" Hg at shutdown.
VAULT 2 (29 Wells)									
IRZ B 41	5/30/03	Flow Test		<2.0		8	28		
	2/23/04	Initial Molasses Injection	No	-25	32	10.7	1,405	HSA	
	3/2/04	Water Flush	No		13	5.0/4.0	25		
	7/8/04	Water Test	Minimal		5.5	3.72	1,200		No significant pressure drop observed. Well vacuum to 2" Hg when valve closed.
IRZ B 43A	5/23/03	Flow Test		7.0		6	30		
	2/23/04	Initial Molasses Injection	Yes	31	32	1.2	209	CPT	
	3/2/04	Water Flush	Yes		12/13/11	2.6/0.8/3.2	25		
	7/8/04	Water Test	Yes		0	1.96	480		Well vacuum to 28" Hg when valve closed.
IRZ B 43B	5/23/03	Flow Test		<2.0		12	30		
	2/23/04	Initial Molasses Injection	Yes		NR	7.0	105	CPT	
	3/2/04	Water Flush	Yes		12/6/<2	2.5/5.0/6.0	25		
	7/8/04	Water Test	Yes		0	5.87	720		Well vacuum to 29" Hg when valve closed off.
IRZ B 44	5/30/03	Flow Test		<2.0		11	25		
	2/23/04	Initial Molasses Injection	Yes	34	37	2.1	280	CPT	
	3/2/04	Water Flush	Yes		13/12	1.6/4.2	25		
	7/8/04	Water Test	Yes		0	3.3	1,200		Vacuum to 29" Hg when valve closed.
IRZ B 45A	5/30/03	Flow Test		5.0		6.5	24		Well was retested 6/11/03.
	2/23/04	Initial Molasses Injection	Yes	24	26	1.8	323	CPT	
	3/2/04	Water Flush	Yes		12/2/<2	3.0/6.3/7.2	26		
	7/8/04	Water Test	Yes		2" Hg	6.41	480		Vacuum went to 29" Hg when valve closed.
IRZ B 45B	5/30/03	Flow Test		<2.0		10	25		
	2/23/04	Initial Molasses Injection	No		NR	2.5	37	CPT	
	3/2/04	Water Flush	No		13	-	4		Flow stopped.
	6/16/04	Water Test	Yes		6.5	2.41	723		Well siphons to 26" Hg at shutdown.
IRZ B 46A	5/27/03	Flow Test		10.0		5	30		
	2/23/04	Initial Molasses Injection	Yes	16	25	4.3	491	CPT	
	3/2/04	Water Flush	Yes		10/4/12	4.8/6.0/4.2	25		
	7/8/04	Water Test	Yes		0	2.03	480		Vacuum went to 28" Hg when valve closed.
IRZ B 46B	5/27/03	Flow Test		<2.0		14	30		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/17/04	Water Test	Yes		1	7.08	726		Well not injected, flushing not required. Well siphons to 28" Hg at shutdown.
IRZ B 47A	5/30/03	Flow Test		5.0		2.5	25		
	2/23/04	Initial Molasses Injection	No	47	54	3.9	480	CPT	
	3/2/04	Water Flush	No		13	1.3/0.3	4		Flow stopped.
	6/16/04	Water Test	Minimal		17.5	1.27	481		Well siphons to 20" Hg at shutdown.

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IRZ B 47B	5/30/03	Flow Test		<2.0		12	26		
	2/23/04	Initial Molasses Injection	Yes	20	26	3.8	662	CPT	
	3/2/04	Water Flush	Yes		13/8	6	25		
	7/8/04	Water Test	Yes		1" Hg	6.29	720		
IRZ B 48	5/27/03	Flow Test		<2.0		13	31		Vacuum to 29.5" Hg when valve closed.
	2/23/04	Initial Molasses Injection	Yes	-32	30	12.1	1,221	HSA	
	3/2/04	Water Flush	Yes		12/13	1	25		
	7/8/04	Water Test	Yes		0	6.52	1,200		
IRZ B 49A	5/30/03	Flow Test		15.0		2.5	21		Vacuum to 29" Hg when valve closed.
	2/23/04	Initial Molasses Injection	No	23	47	6.9	480	CPT	
	3/2/04	Water Flush	No		13	3.4/0.4	4		Flow stopped.
	6/17/04	Water Test	No		8	2.42	464		Test stopped due to surface leakage (~8oz). Well siphons to -7" Hg at shutoff.
IRZ B 49B	5/30/03	Flow Test		<2.0		15	26		
	2/23/04	Initial Molasses Injection	Yes	2	25	6.6	764	CPT	
	3/2/04	Water Flush	Yes		13/11	3.8/8.2	25		
	7/8/04	Water Test	Yes		0	3.02	720		
IRZ B 50A	5/30/03	Flow Test		8.0		3	25		Vacuum to 29" Hg when well valve closed.
	2/23/04	Initial Molasses Injection	No	27	28	1.0	170	CPT	
	3/2/04	Water Flush	No		13	3.7/0.7	7		Flow stopped.
	6/16/04	Water Test	Minimal		15.0	1.85	481		Low injection flow rate. Well siphons to 24" Hg vacuum.
IRZ B 50B	5/30/03	Flow Test		<2.0		8	25		
	2/23/04	Initial Molasses Injection	Yes	25	26	1.6	287	CPT	
	3/2/04	Water Flush	Yes		13	2.4/3.4	25		
	7/8/04	Water Test	Yes		5.5	4.03	720		
IRZ B 51A	5/30/03	Flow Test		5.0		9	26		Well vacuum to 29" Hg when valve shut.
	2/23/04	Initial Molasses Injection	No	22	22	0.0	6	CPT	
	3/2/04	Water Flush	No		13	0.4	4		Flow stopped.
	6/17/04	Water Test	Minimal		15.0	1.47	482		Low injection flow rate. Well siphons to 28" Hg at shutdown.
IRZ B 51B	5/30/03	Flow Test		<2.0		12	25		
	2/23/04	Initial Molasses Injection	Yes	14	23	5.0	883	CPT	
	3/2/04	Water Flush	Yes		13/12	4.0/10.0	25		
	7/8/04	Water Test	Yes		0	5.06	720		
IRZ B 52	5/27/03	Flow Test		<2.0		12	30		Well vacuum to 29.5" Hg when valve closed.
	2/23/04	Initial Molasses Injection	Yes	25	34	4.1	539	CPT	
	3/2/04	Water Flush	Yes		12/6/4	4.0/5.7/6.3	25		
	7/8/04	Water Test	Yes		0	4.45	1,200		
IRZ B 53	5/27/03	Flow Test		<2.0		10.5	30		Well vacuum to 24" Hg when pump off.
	2/23/04	Initial Molasses Injection	Yes	-28	10	11.7	1,200	HSA	
	3/2/04	Water Flush	Yes		10	8.5	27		
	7/8/04	Water Test	Yes		0	6.59	1,200		Well vacuum to 29" Hg when valve closed.

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IRZ B 54A	5/27/03	Flow Test		12.0		4	30		
	2/23/04	Initial Molasses Injection	No	18	18	0.0	7	CPT	
	3/2/04	Water Flush	No		13	0.2	5		Flow stopped.
	6/17/04	Water Test	Minimal		12.5	2.01	482		Low injection flow rate. Well siphons to 26" Hg at shutdown.
IRZ B 54B	5/27/03	Flow Test		4.0		8	31		
	2/23/04	Initial Molasses Injection	Yes	20	23	2.1	376	CPT	
	3/2/04	Water Flush	Yes		13	0.8/3.0	25		
	7/8/04	Water Test	Yes		0	6.10	760		
IRZ B 55A	5/27/03	Flow Test		<2.0		12	30		Vacuum to 29" Hg when valve closed.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/17/04	Water Test	Yes		2.5	4.21	482		Well not injected, flushing not required.
IRZ B 55B	5/30/03	Flow Test		<2.0		11	26		Well siphons to 26" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	26	28	2.0	352	CPT	
	3/2/04	Water Flush	Yes		12/<2	3.7/6.8	25		
	7/8/04	Water Test	Yes		0	4.09	678		
IRZ B 56	5/30/03	Flow Test		<2.0		14	25		Vacuum to 29" Hg when valve closed.
	2/23/04	Initial Molasses Injection	Yes	34	47	5.9	787	CPT	
	3/2/04	Water Flush	Yes		12/6	3.7/5.6/4.9	25		
	7/8/04	Water Test	Yes		5	5.19	1,200		
IRZ B 57	5/30/03	Flow Test		<2.0		13	25		
	2/23/04	Initial Molasses Injection	Yes	34	49	5.2	687	CPT	
	3/2/04	Water Flush	Yes		13	2.2/4.0/3.2	25		
	7/8/04	Water Test	Yes		0	6.78	1,200		
IRZ B 58	5/27/03	Flow Test		<2.0		12	30		Well vacuum to 29.5" Hg when valve closed.
	2/23/04	Initial Molasses Injection	Yes	46	50	2.5	329	CPT	
	3/2/04	Water Flush	Yes		10	3.9	25		
	7/8/04	Water Test	Yes		0	6.34	1,200		
IRZ B 59	5/27/03	Flow Test		<2.0		9	30		Well vacuum to 29" Hg when valve closed.
	2/23/04	Initial Molasses Injection	Yes	11	28	6.1	810	CPT	
	3/2/04	Water Flush	Yes		10/13	4.0/4.8	25		Stopped at 3.7 gal, restarted after 10 min.
	7/8/04	Water Test	Yes		0	5.58	1,200		Well vacuum to 29.5" Hg when valve closed.
IRZ B 60	5/27/03	Flow Test		<2.0		13	30		
	2/23/04	Initial Molasses Injection	Yes	21	35	5.9	779	CPT	
	3/2/04	Water Flush	Yes		13/12	6.2/9.2	25		
	7/8/04	Water Test	Yes		0	6.01	1,200		
IRZ B 61	5/27/03	Flow Test		<2.0		12	30		Well vacuum to 28" Hg when valve closed.
	2/23/04	Initial Molasses Injection	Yes		NR		585	HSA	
	3/2/04	Water Flush	Yes		6/<2	5.3/6.7	25		
	7/8/04	Water Test	Yes		0	6.29	1,200		Well vacuum to 29" Hg when valve closed.

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VAULT 3 (38 Wells)									
IRZ B 62	9/8/03	Flow Test		13.0		15	24		
	2/23/04	Initial Molasses Injection	Minimal	11	40	5.2	1,045	CPT	
	3/3/04	Water Flush	Minimal		13	4.0/2.1/1.8	25		
	7/7/04	Water Test	Yes		0	4.30	1,200		
IRZ B 63	5/27/03	Flow Test		<2.0		12	30		Well pulled full vacuum (29" Hg) at test shutdown.
	2/23/04	Initial Molasses Injection	Minimal	43	50	2.3	463	CPT	
	3/3/04	Water Flush	Minimal		13	3.2/1.0/2.6	25		
	7/7/04	Water Test	Yes		0	4.91	1,200		
IRZ B 64	5/27/03	Flow Test		4.0		8	30		Well went to full vacuum (29" Hg) at test shutdown.
	2/23/04	Initial Molasses Injection	Yes	-163	40	15.0	1,200	CPT	
	3/3/04	Water Flush	Yes		12/13/8	4.7/3.0/5.5	25		
	6/18/04	Water Test	Yes		1.5	2.08	1,204		
IRZ B 65	5/27/03	Flow Test		<2.0		11	30		Low injection flow rate. Well siphons to 25" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	27	50	4.7	948	CPT	
	3/3/04	Water Flush	Yes		13/12	4	25		
	6/18/04	Water Test	Yes		1.0	5.39	1,205		
IRZ B 66	5/27/03	Flow Test		<2.0		12	30		Well siphons to 29" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	21	50	5.6	1,110	CPT	
	3/3/04	Water Flush	Yes		13/10	3.8/5.1	25		
	6/18/04	Water Test	Yes		2.5	5.59	1,204		
IRZ B 67	5/27/03	Flow Test		<2.0		12	30		Well siphons to 29" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	47	50	1.6	328	CPT	
	3/3/04	Water Flush	Yes		13/10	3.0/3.6	25		
	6/18/04	Water Test	Yes		0.5	5.18	1,202		
IRZ B 68	9/8/03	Flow Test		14.0		16	30		Well siphons to 29" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	40	50	3.1	617	CPT	
	3/3/04	Water Flush	Yes		12/12/10	4.2/3.4/4.8	25		
	7/6/04	Water Test	Yes		0	4.3	1,200		
IRZ B 69	5/27/03	Flow Test		<2.0		10	30		Well siphons to 29" Hg at shutdown.
	2/23/04	Initial Molasses Injection	No	35	50	3.7	738	CPT	
	3/3/04	Water Flush	No		13	2.6/0.9/1.6	25		Flow stopped at 15.3 gal.
	6/18/04	Water Test	Yes		2	4.91	1,203		Well siphons to 29" Hg at shutdown.
IRZ B 70	5/27/03	Flow Test		<2.0		10	30		
	2/23/04	Initial Molasses Injection	Minimal	42	50	2.7	532	CPT	
	3/3/04	Water Flush	Minimal		12/13/13	4.6/0.3/1.9	25		
	6/18/04	Water Test	Yes		0.5	5.19	1,203		
IRZ B 71	5/27/03	Flow Test		<2.0		11	30		Well siphons to 29" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	42	50	2.8	563	CPT	
	3/3/04	Water Flush	Yes		13	1.6/2.8	25		
	6/18/04	Water Test	Yes		1.5	5.36	1,203		Well siphons to 28" Hg at shutdown.

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IRZ B 72	5/27/03	Flow Test		<2.0		12	30		
	2/23/04	Initial Molasses Injection	Yes	-113	50	15.0	1,200	CPT	
	3/3/04	Water Flush	Yes		13/10/13	4.1/4.7/3.9	25		
	6/18/04	Water Test	Yes		0.25	5.58	1,203		
IRZ B 73	5/27/03	Flow Test		<2.0		11.5	30		Well siphons to 29" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	27	50	5.0	176	CPT	
	3/3/04	Water Flush	Yes		13	4	25		
	6/18/04	Water Test	Yes		2.0	5.94	1,205		
IRZ B 74	9/8/03	Flow Test		13.0		15	35		Well siphons to 29" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	12	30	4.1	434	CPT	
	3/3/04	Water Flush	Yes		13	1.2/0.8/2.4	25		
	7/7/04	Water Test	Yes		10	3.58	1,200		
IRZ B 75	9/8/03	Flow Test		13.0		15	36		Well pulled full vacuum (29" Hg) at test shutdown.
	2/23/04	Initial Molasses Injection	Minimal	27	35	2.8	296	CPT	
	3/3/04	Water Flush	Minimal		13	2.8/0.8/2.6	25		
	7/7/04	Water Test	Yes		0	4.12	1,200		
IRZ B 76	9/8/03	Flow Test		11.0		16	35		Well pulled full vacuum (29" Hg) at test shutdown.
	2/23/04	Initial Molasses Injection	Yes	21	35	3.8	397	CPT	
	3/3/04	Water Flush	Yes		13/8/13	4.1/5.6/4.2	25		
	7/6/04	Water Test	Yes		8.5	4.4	1,200		
IRZ B 77	5/27/03	Flow Test		<2.0		12	30		Well siphons to 29" Hg at shutdown.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/25/04	Water Test	Yes		8" Hg	3.21	1,202		Wells not injected, flushing not required.
IRZ B 78	5/27/03	Flow Test		<2.0		9.5	30		Well siphons to 28" Hg at shutdown.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/25/04	Water Test	Yes		12" Hg	3.94	1,205		Wells not injected, flushing not required.
IRZ B 79	5/27/03	Flow Test		<2.0		12	30		Well siphons to 28" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	-11	30	7.9	780	HSA	
	3/3/04	Water Flush	Yes		13	3.4/8.0	25		
	7/6/04	Water Test	Yes		1	6.2	1,200		
IRZ B 80	9/8/03	Flow Test		12.0		16	35		Well siphons to 29.5" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Minimal	33	40	2.4	255	CPT	
	3/3/04	Water Flush	Minimal		10/13/12	5.1/0.5/3.2	25		Slowing in flow was observed after 10.2 gals.
	7/7/04	Water Test	Yes		0	3.54	1,200		Well siphons to 29" Hg at shutdown.
IRZ B 81	9/8/03	Flow Test		10.0		16	36		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/25/04	Water Test	Yes		-11.5" Hg	3.95	1,202		Well siphoned to completion. Well siphons to 28" Hg.

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IRZ B 82	9/8/03	Flow Test		9.0		18	41		
	2/23/04	Initial Molasses Injection	Yes	31	40	3.1	321	CPT	
	3/3/04	Water Flush	Yes		13	3.4/4.6	25		
	7/6/04	Water Test	Yes		0.5	5.9	1,212		
IRZ B 83	9/8/03	Flow Test		12.0		16	41		Well siphons to 29" Hg at shutdown.
		Initial Molasses Injection							
		Water Flush						CPT	
	6/25/04	Water Test	Yes		10" Hg	3.84	1,203		Wells not injected, flushing not required.
IRZ B 84	5/27/03	Flow Test		4.0		8.5	30		Well siphoned to 28" Hg after shutdown of test.
	2/23/04	Initial Molasses Injection	Yes	22	35	4.0	589	CPT	
	3/3/04	Water Flush	Yes		13	4.3	25		
	7/6/04	Water Test	Yes		6	4.8	1,200		
IRZ B 85	5/27/03	Flow Test		6.0		7	30		Well siphons to 29.5" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	25	40	4.4	915	CPT	
	3/3/04	Water Flush	Yes		13	2.6	25		
	7/7/04	Water Test	Yes		0	4.33	1,200		
IRZ B 86	5/27/03	Flow Test		<2.0		11	30		Well went to full vacuum (29" Hg) at test shutdown.
	2/23/04	Initial Molasses Injection	Yes	-7	30	7.4	1,200	HSA	
	3/3/04	Water Flush	Yes		9/<2	5.4/7.3	26		
	7/6/04	Water Test	Yes		3	5.3	1,222		
IRZ B 87	9/8/03	Flow Test		15.0		14	40		Well siphons to 29" Hg at shutdown.
	2/24/04	Initial Molasses Injection	Minimal	38	40	1.3	131	CPT	
	3/3/04	Water Flush	Minimal		13/14	0.6/1.0	25		Flow stopped at 7.2 and 11.6 gal. Pressure increased to 14 psi to finish flushing.
	7/7/04	Water Test	Yes		0	3.60	1,200		Well siphons to 29" Hg at shutdown.
IRZ B 88	9/8/03	Flow Test		15.0		15	40		
	2/24/04	Initial Molasses Injection	Yes	32	35	1.6	159	CPT	
	3/3/04	Water Flush	Yes		10/13	4.9/2.1	25		
	7/6/04	Water Test	Yes		8	4.4	1,200		
IRZ B 89	9/8/03	Flow Test		13.0		16	40		Well siphons to 29" Hg at shutdown.
	2/24/04	Initial Molasses Injection	Yes	30	40	3.4	345	CPT	
	3/3/04	Water Flush	Yes		12/9/13	4.3/5.0/1.9	25		
	7/7/04	Water Test	Yes		0	4.53	1,200		
IRZ B 90	9/8/03	Flow Test		14.0		16	40		Well went to full vacuum (29" Hg) at test shutdown.
	2/24/04	Initial Molasses Injection	Yes	20	24	2.1	216	CPT	
	3/3/04	Water Flush	Yes		13	1.3/0.9/2.4	25		
	7/6/04	Water Test	Yes		2	5.8	1,200		
IRZ B 91	9/8/03	Flow Test		16.0		15	40		Well siphons to 29" Hg at shutdown.
	2/23/04	Initial Molasses Injection	Yes	30	32	1.6	338	CPT	
	3/3/04	Water Flush	Yes		13/16/14	0.6/1.2/1.6	25		Flow stopped at 76.9 gals, increased to 15 psi, flow stopped, increased to 16 psi, flow restarted and pressure decreased.
	7/7/04	Water Test	Yes		0	4.32	1,200		Well went to full vacuum (29" Hg) at test shutdown.

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Amendment Point ID	Date	Injection/Test Event	Well Siphoned?	Wellhead Pressure/Vacuum (psig / " Hg)	Manifold Pressure/Vacuum (psig / " Hg)	Average Flowrate (gpm)	Injected Volume (gal)	Amendment Point Installation Method	Comments
IRZ B 92	5/23/03	Flow Test		<2.0		11.5	35		
	2/23/04	Initial Molasses Injection	Yes	20	31	3.8	796	CPT	
	3/3/04	Water Flush	Yes		10/13/5	5.5/4.6/6.8	25		
	7/7/04	Water Test	Yes		0	4.00	1,200		Well pulled 29" Hg when valve closed.
IRZ B 93	5/23/03	Flow Test		4.0		8	44		
	2/23/04	Initial Molasses Injection	Minimal	23	31	3.6	740	CPT	
	3/3/04	Water Flush	Min/Yes		10/13	5.5/2.5	25		
	7/7/04	Water Test	Yes		0	5.36	1,200		Well went to full vacuum (29" Hg) at test shutdown.
IRZ B 94	9/8/03	Flow Test		8.0		19	41		
	2/24/04	Initial Molasses Injection	Yes	21	32	3.5	353	CPT	
	3/3/04	Water Flush	Yes		12/4/12	4.8/6.6/4.9	25		
	7/6/04	Water Test	Yes		0	4.2	1,200		Well siphons to 29" Hg at shutdown.
IRZ B 95	9/8/03	Flow Test		15.0		16	40		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/25/04	Water Test	Minimal		4" Hg	1.86	1,200		Low injection flow rate. Well siphons to 10" Hg only at test shutdown.
IRZ B 96	9/8/03	Flow Test		15.0		17	40		
	2/24/04	Initial Molasses Injection	Yes	14	30	4.7	483	CPT	
	3/3/04	Water Flush	Yes		11/6	5.3/6.5	25		
	7/6/04	Water Test	Yes		0	4.3	1,200		Well siphons to 29.5" Hg at shutdown.
IRZ B 97	9/8/03	Flow Test		15.0		14	41		
	2/24/04	Initial Molasses Injection	Yes	20	29	3.5	356	CPT	
	3/3/04	Water Flush	Yes		13	6.0/4.0	25		No significant pressure drop observed.
	7/7/04	Water Test	Yes		0	4.42	1,200		Well siphons to 29" Hg at shutdown.
IRZ B 98		Flow Test							Well not tested to accommodate construction schedule.
	2/23/04	Initial Molasses Injection	Yes	30.0	50	5.8	1,152	CPT	
	3/3/04	Water Flush	Yes		12/13	5.0/3.0/5.2	25		Flow stopped at 16 gal. Picked up again at 18.5 gal.
	7/6/04	Water Test	Yes		0	3.7	1,200		Well siphons to 29" Hg at shutdown.
IRZ B 99		Flow Test							Well not tested to accommodate construction schedule.
	2/23/04	Initial Molasses Injection	Yes	-14	36	10.0	1,200	HSA	
	3/3/04	Water Flush	Yes		13/12	4.0/8.5	25		
	7/7/04	Water Test	Yes		5" Hg	5.95	1,200		Well went to full vacuum (29" Hg) at test shutdown.
VAULT 4 (20 Wells)									
IRZ C 1	8/14/03	Flow Test		18.0		16	101		
	2/24/04	Initial Molasses Injection	Yes	4	15	3.5	1,583	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 2	8/14/03	Flow Test		5.0		24	101		
	2/24/04	Initial Molasses Injection	No	19	21	1.3	586	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.

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IRZ C 3	8/14/03	Flow Test		8.0		21	102		
	2/24/04	Initial Molasses Injection	Yes	-8	5	3.5	1,610	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 4	8/14/03	Flow Test		4.0		24	102		
		Initial Molasses Injection						HSA	
		Water Flush							Well not injected, no flushing required.
	7/12/04	Water Test	No		7.5	3.12	960		Max. inj. pressure = 15.5 psi. Well siphoned to 2" Hg at test shutdown.
IRZ C 5	8/14/03	Flow Test		4.0		24	100		
	2/24/04	Initial Molasses Injection	Yes	3	16	3.8	1,300	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 6	8/14/03	Flow Test		4.0		24	102		
	2/24/04	Initial Molasses Injection	Yes	1	12	3.4	1,533	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 7	5/12/03	Flow Test		3.0		18	102		
	2/24/04	Initial Molasses Injection	Yes	3	12	4.0	1,333	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 8	5/12/03	Flow Test		<2.0		18	90		
	2/24/04	Initial Molasses Injection	Yes	5	12	3.3	1,482	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 9	5/12/03	Flow Test		<2.0		17	100		
	2/24/04	Initial Molasses Injection	Yes	5	12	3.1	1,419	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 10	8/14/03	Flow Test		4.0		24	102		
	2/24/04	Initial Molasses Injection	Yes	2	13	3.8	1,351	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 11	8/14/03	Flow Test		4.0		24	103		
	2/24/04	Initial Molasses Injection	Yes	-8	8	4.4	1,350	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 12	8/14/03	Flow Test		10.0		20	104		
	2/24/04	Initial Molasses Injection	Yes	-11	5	4.4	1,351	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.

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IRZ C 13	5/12/03	Flow Test		<2.0		10	90		
	2/24/04	Initial Molasses Injection	Yes	-4	12	5.1	901	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 14	5/12/03	Flow Test		<2.0		14	90		
	2/24/04	Initial Molasses Injection	Yes	-1	11	4.2	1,354	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 15	5/12/03	Flow Test		<2.0		16	96		
	2/24/04	Initial Molasses Injection	Yes	-5	6	3.8	1,204	HSA	
	2/24/04	Water Flush					25		
		Water Test		-5.0					Not tested due to successful IRZ injection event.
IRZ C 16	5/12/03	Flow Test		<2.0		17.5	80		
	2/24/04	Initial Molasses Injection	Yes	-6	9	4.3	1,380	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 17	8/14/03	Flow Test		6.0		22	150		
	2/24/04	Initial Molasses Injection	Yes	-30	12	7.3	1,359	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 18	5/12/03	Flow Test		<2.0		19	99		
	2/24/04	Initial Molasses Injection	Yes	-2	17	4.7	1,253	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 19	5/12/03	Flow Test		<2.0		19	103		
	2/24/04	Initial Molasses Injection	Yes	6	18	3.8	1,001	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
IRZ C 20		Flow Test							Well not tested to accommodate construction schedule.
	2/24/04	Initial Molasses Injection	Yes	-6	11	4.4	1,351	HSA	
	2/24/04	Water Flush					25		
		Water Test							Not tested due to successful IRZ injection event.
VAULT 5 (31 Wells)									
AW 0 135	8/25/03	Flow Test		20.0		12	31		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		3" Hg	3.03	961		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 136	8/25/03	Flow Test		20.0		0	6		Well was reinstalled but not retested to accommodate construction schedule.
		Initial Molasses Injection						CPT	
		Water Flush							
	7/1/04	Water Test	Yes		6" Hg	3.33	961		Well siphons to 28" Hg vacuum at test shutdown.

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AW 0 137	8/25/03	Flow Test		18.0		11	31		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		8" Hg	3.62	962		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 138	8/25/03	Flow Test		14.0		18	33		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		9" Hg	3.59	962		Well siphons to 29" Hg vacuum at test shutdown.
AW 0 139	8/25/03	Flow Test		<2.0		24	78		
		Initial Molasses Injection						HSA	
		Water Flush							
	7/1/04	Water Test	Minimal		0	1.84	962		Low injection flow rate. Well siphons to 18" Hg vacuum at test shutdown.
AW 0 140	8/25/03	Flow Test		14.0		15	31		
		Initial Molasses Injection						CPT	
		Water Flush							
	7/1/04	Water Test	Minimal		2" Hg	2.40	961		Well siphons to 26" Hg vacuum at test shutdown.
AW 0 141	8/25/03	Flow Test		<2.0		24	78		
		Initial Molasses Injection						HSA	
		Water Flush							
	7/1/04	Water Test	Minimal		0.5	1.26	962		Low injection flow rate. Well only siphons to 4" Hg vacuum at test shutdown.
AW 0 142	8/25/03	Flow Test		16.0		13	31		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		7" Hg	3.72	962		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 143	8/25/03	Flow Test		18.0		12	36		
		Initial Molasses Injection						CPT	
		Water Flush							
	7/1/04	Water Test	Minimal		0.5	1.74	962		Low injection flow rate. Well siphons to 28" Hg vacuum at test shutdown.
AW 0 144	8/25/03	Flow Test		10.0		16	31		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		16" Hg	4.38	962		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 145	8/25/03	Flow Test		14.0		14	31		
		Initial Molasses Injection						CPT	
		Water Flush							
	7/1/04	Water Test	Yes		5" Hg	3.04	961		Well siphons to 28" Hg vacuum at test shutdown.

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AW 0 146	8/25/03	Flow Test		12.0		16	31		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/28/04	Water Test	Yes		8" Hg	3.16	961		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 147	5/12/03	Flow Test		2.0		9	26		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		1" Hg	2.61	961		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 148	5/12/03	Flow Test		2.0		11	26		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		9" Hg	3.41	962		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 149	5/12/03	Flow Test		2.0		10	25		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		12" Hg	3.66	961		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 150	8/25/03	Flow Test		12.0		15	30		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		2.5" Hg	2.93	963		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 151	8/25/03	Flow Test		17.0		0	11		Well was retested 8/27/03.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Minimal		1" Hg	1.77	961		Low injection flow rate. Well siphons to 21" Hg vacuum at test shutdown.
AW 0 152	8/25/03	Flow Test		18.0		13	31		
		Initial Molasses Injection						CPT	
		Water Flush							
	7/1/04	Water Test	Yes		7.5" Hg	3.53	961		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 153	5/12/03	Flow Test		5.0		8	25		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		1.5" Hg	2.73	961		Well siphons to 29" Hg vacuum at test shutdown.
AW 0 154	5/12/03	Flow Test		2.0		10	26		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		13" Hg	3.84	962		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 155	5/12/03	Flow Test		2.0		10	27		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		2" Hg	2.78	961		Well siphons to 27" Hg vacuum at test shutdown.

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AW 0 156	8/25/03	Flow Test		<2.0		21	77		
		Initial Molasses Injection						HSA	
		Water Flush							
	7/1/04	Water Test	Minimal		0.5	1.59	963		Low injection flow rate. Well only siphons to 4" Hg vacuum at test shutdown.
AW 0 157	8/25/03	Flow Test		16.0		11	30		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		10" Hg	3.61	961		Well siphons to 29" Hg vacuum at test shutdown.
AW 0 158	8/25/03	Flow Test		16.0		10	30		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		8" Hg	3.74	964		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 159	8/25/03	Flow Test		14.0		12	31		
		Initial Molasses Injection						CPT	
		Water Flush							
	7/1/04	Water Test	Yes		9" Hg	3.81	961		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 160	8/25/03	Flow Test		10.0		16	51		
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		4" Hg	3.16	961		Well siphons to 26" Hg vacuum at test shutdown.
AW 0 161	8/25/03	Flow Test		6.0		14	52		
		Initial Molasses Injection						CPT	
		Water Flush							
	7/1/04	Water Test	Yes		6" Hg	3.26	962		Well siphons to 27" Hg vacuum at test shutdown.
AW 0 162	8/25/03	Flow Test		20.0		8	20		Well was retested 8/27/03.
		Initial Molasses Injection						CPT	
		Water Flush							
	7/1/04	Water Test	Yes		9" Hg	3.88	962		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 163	8/25/03	Flow Test		15.0		0	15		Well was retested 8/27/03.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		7" Hg	3.67	962		Well siphons to 28" Hg vacuum at test shutdown.
AW 0 164	8/25/03	Flow Test		12.0		14	29		Well was retested 8/27/03.
		Initial Molasses Injection						CPT	
		Water Flush							
	7/1/04	Water Test	Yes		9.5" Hg	3.81	962		Well/hose siphons to 29" Hg vacuum.
AW 0 165	8/25/03	Flow Test		16.0		12	27		Well was retested 8/27/03.
		Initial Molasses Injection						CPT	
		Water Flush							
	6/30/04	Water Test	Yes		3" Hg	3.04	961		Well siphons to 28" Hg vacuum at test shutdown.